CPUC Energy Efficiency Policies and Investor-Owned Utility (IOU) Programs

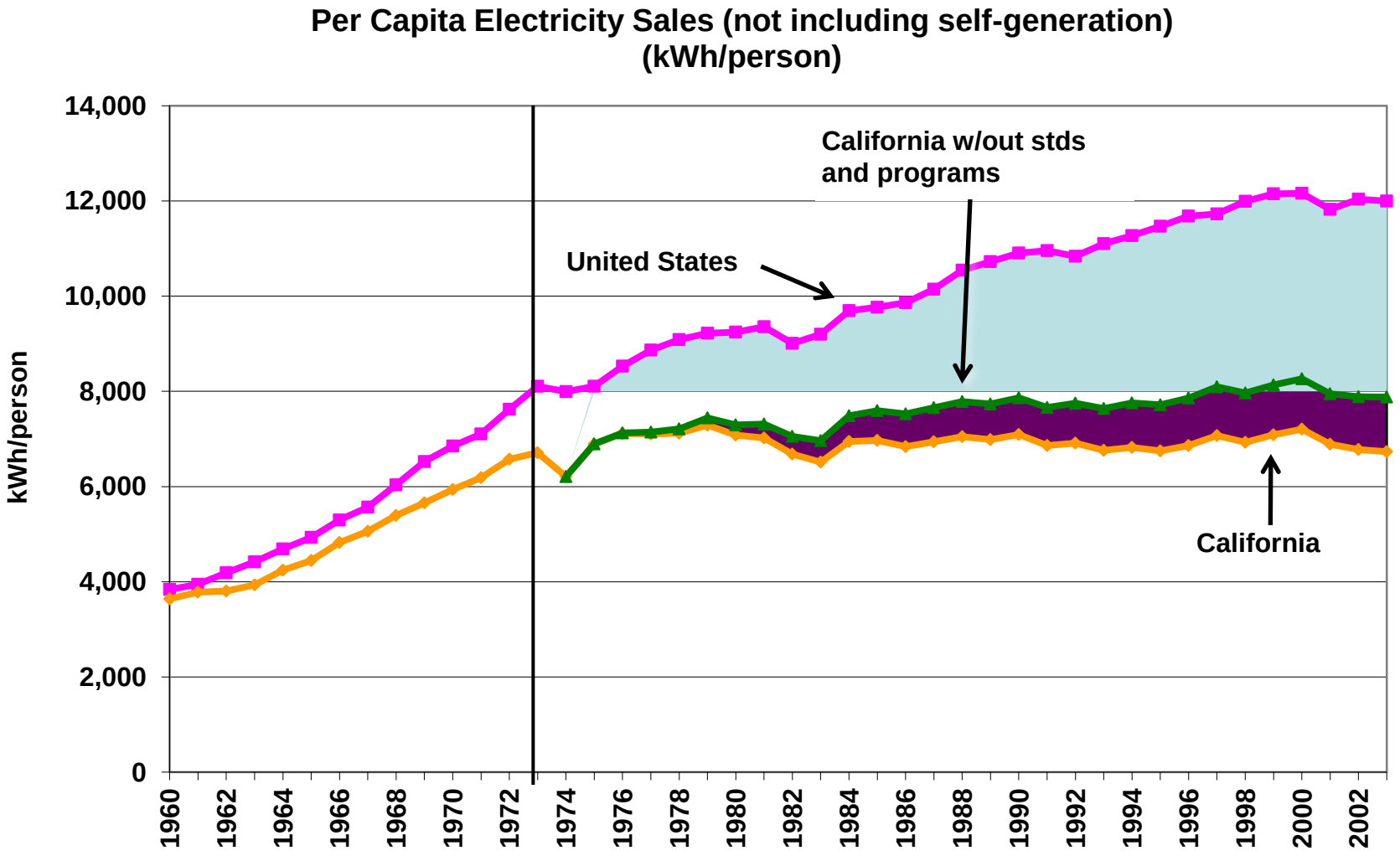
December 11, 2012

Energy Division
California Public Utilities Commission (CPUC)

Presentation Outline

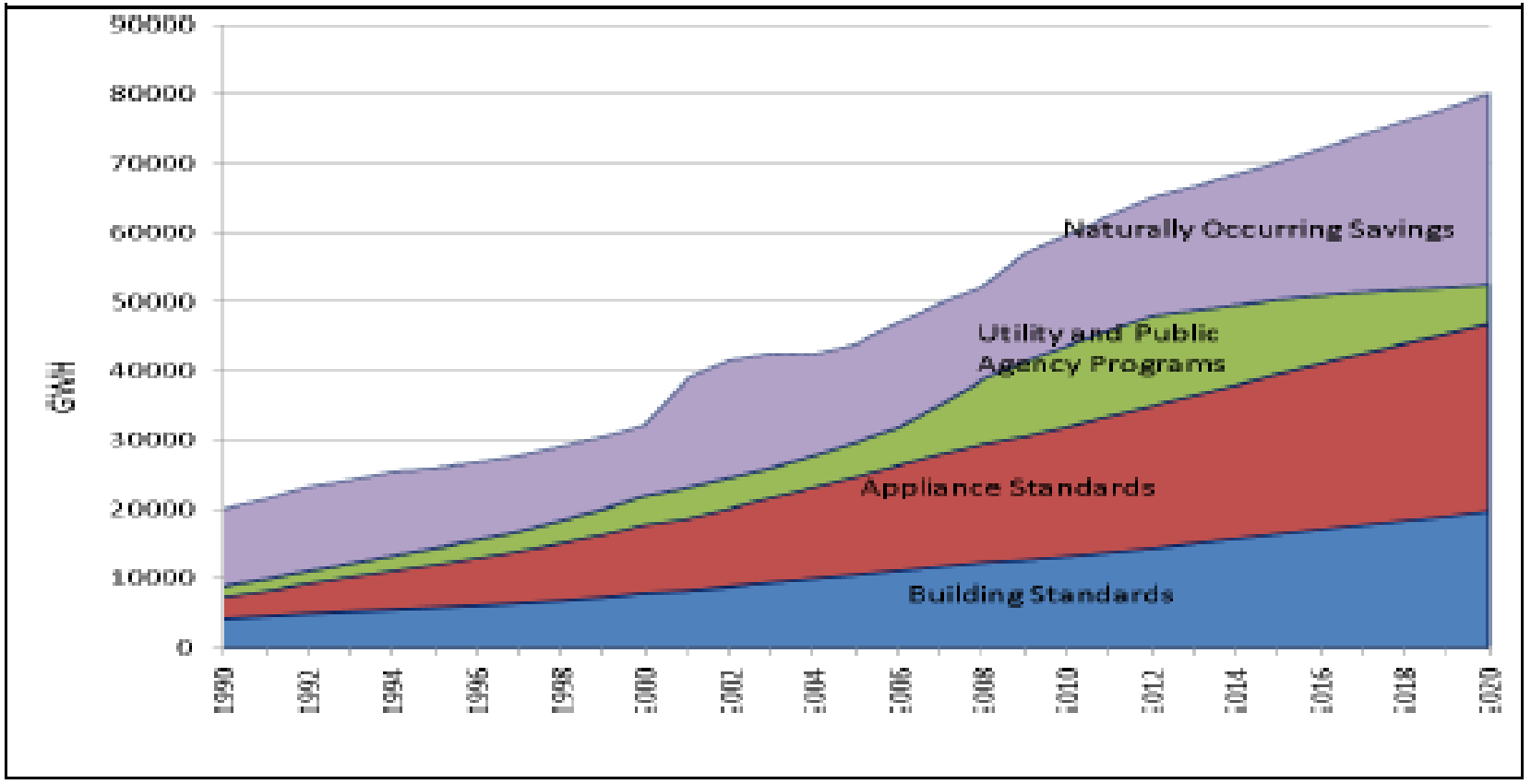
- Overview of CPUC EE Regulation
- CPUC Regulatory History
- Cost-Effectiveness
- Goals
- Shareholder incentives
- Ex ante / Ex post
- EM&V
- Strategic Plan
- Action Plans
- Post-2014 planning
- Energy Division organizational chart and staffing
- Appendices

U.S. Energy Use Grows While California Usage Remains Flat



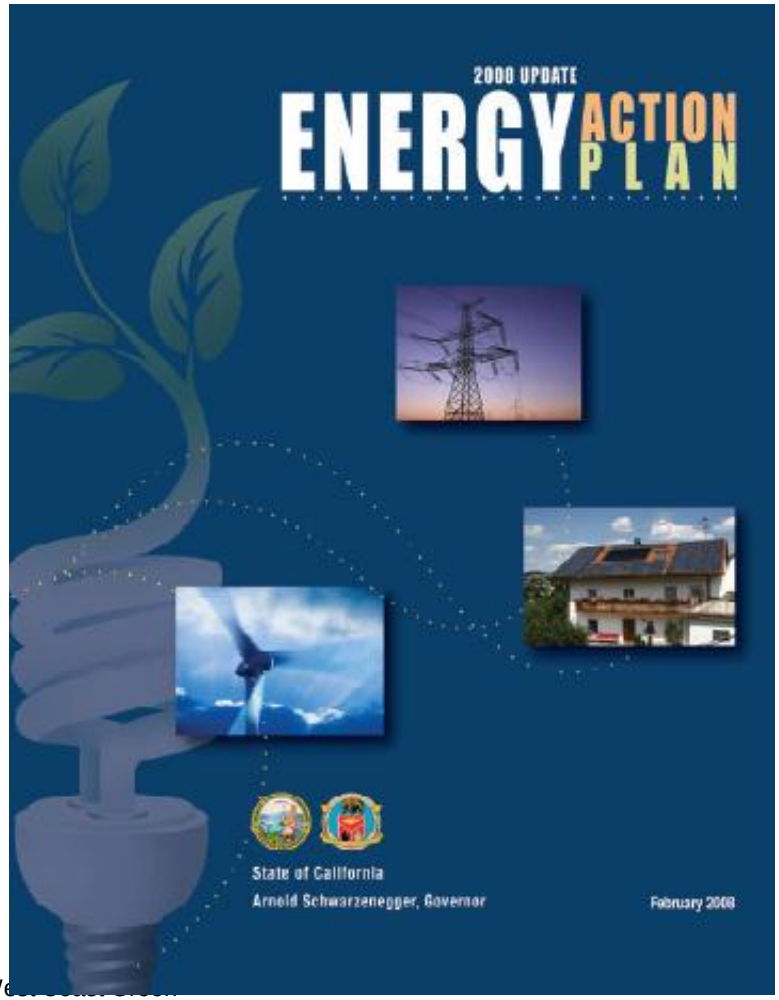
California EE / Conservation "Wedges"

Figure 5: Efficiency/Conservation Consumption Savings by Source



Source: California Energy Commission, 2009

Energy Efficiency is California's Preferred Resource

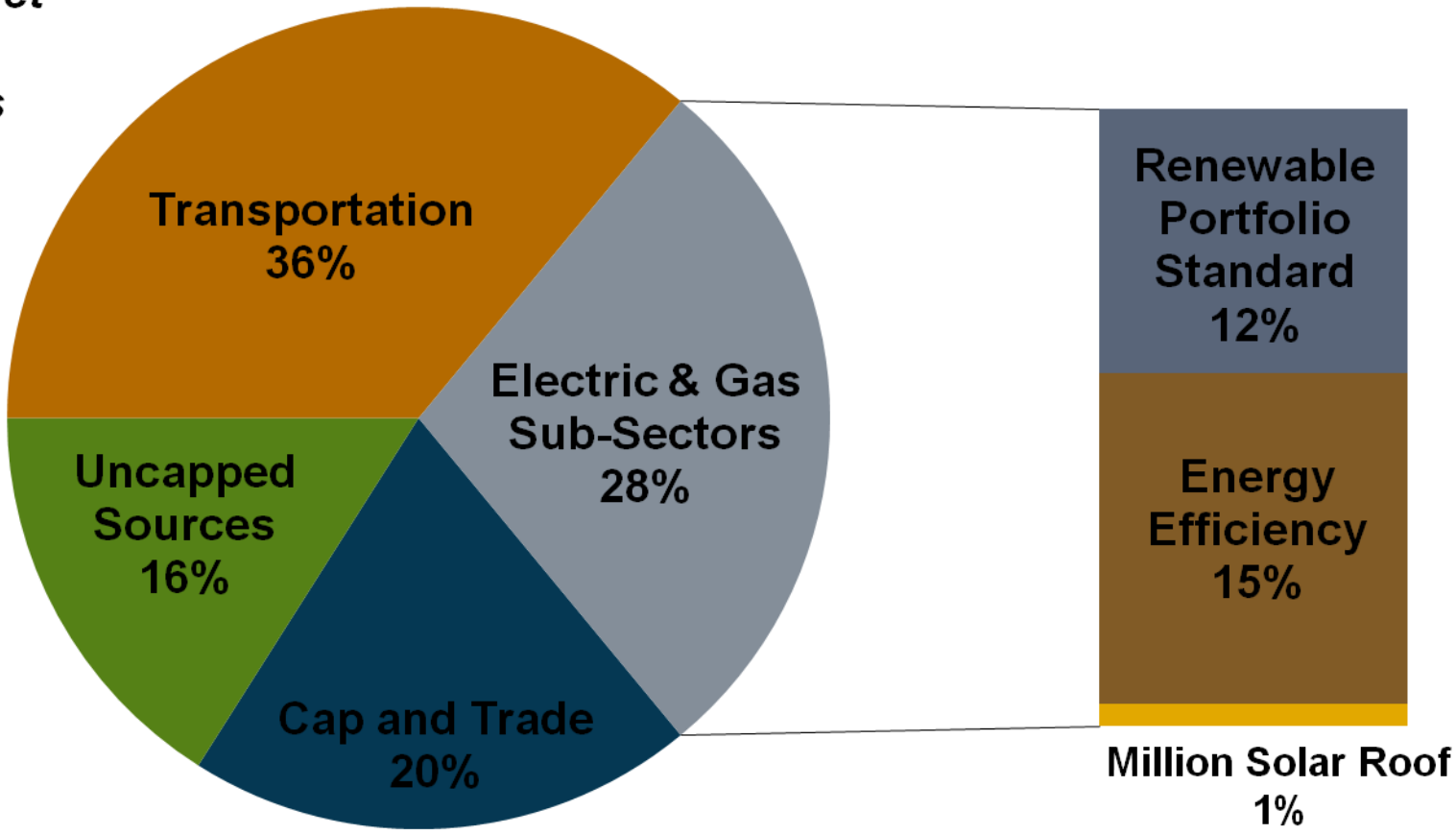


"Loading Order" of Energy Resources:

- Energy efficiency and Demand response
- Distributed generation
- Renewable generation
- Cleanest available fossil resources

AB 32: California's Greenhouse Gas Emission Reduction Strategies

California's Global Warming Solutions Act Mandates 1990 Levels by 2020



California Air Resources Board Scoping Plan, December 2008, Table 2.

CPUC Role in Governing IOU Energy Efficiency Programs

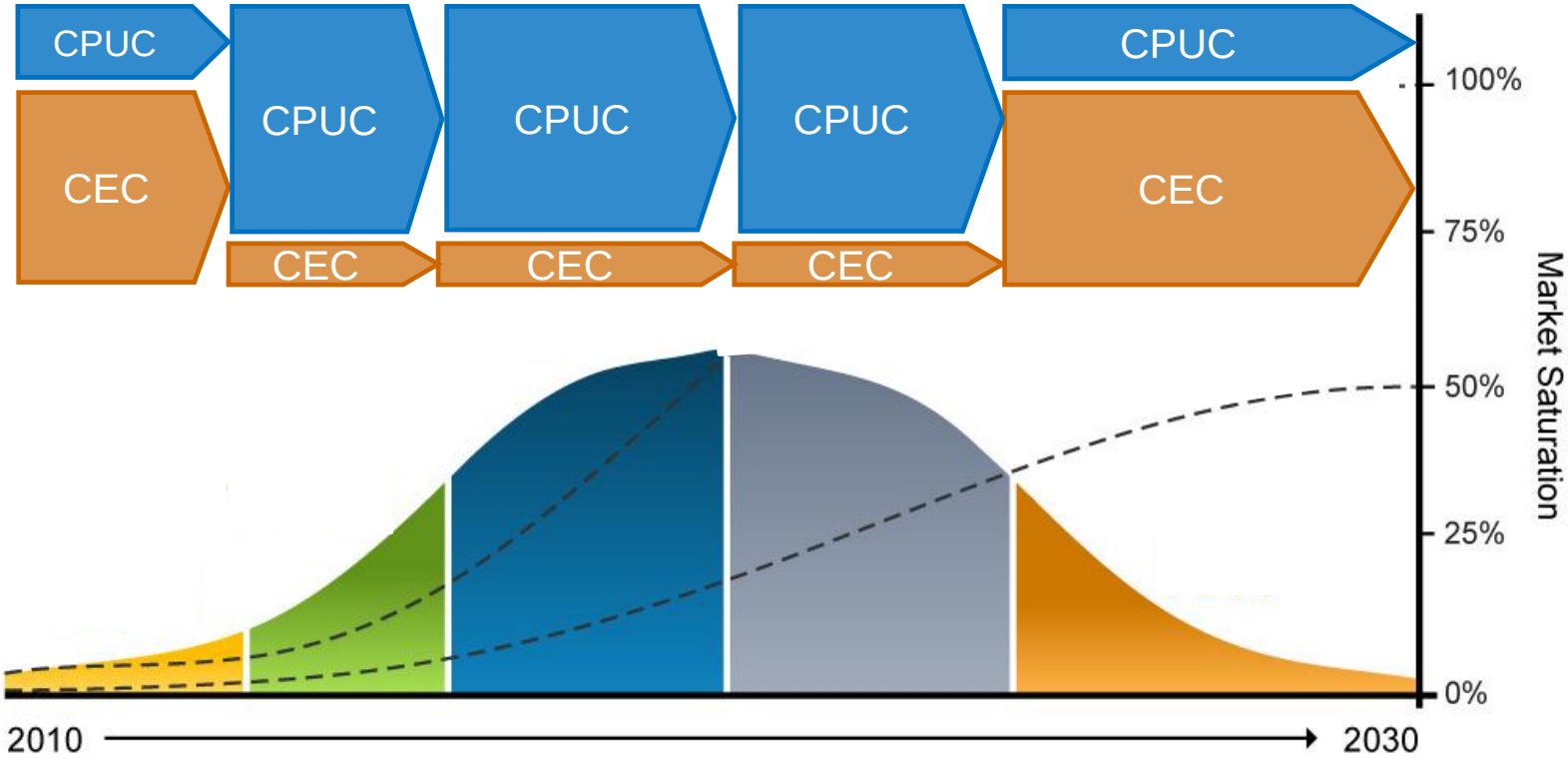
- CPUC
  - Regulates investor-owned utilities (IOUs)
  - Sets rates, determines revenue requirement
  - Oversees IOU EE budgets and plans
- Per 2005 decision, IOUs administer EE programs approved by CPUC
  - Beginning in 2006, Commission staff (Energy Division) evaluate IOU programs

CPUC Statutory Mandates

- Foundational mandates
  - "Just and reasonable" rates – PU Code 451
  - "All practicable and cost-effective" conservation / EE – PU Code 701(b)
- More recent provisions
  - "All cost-effective EE" - PU Code Sections 454.5.(b)(9)(C) ("loading order" / electric EE procurement provision)
  - Set EE goals based on "all cost-effective EE" - PU Code 454.55 (electric) and 454.56 (gas)
  - Electric PGC surcharge – PU Code 381 and 399 (now expired)
  - Natural Gas PPP surcharge – PU Code 890-899 (no sunset)

CPUC policy emphasis focused on voluntary market

Historical Agency Emphasis / Mandates



Example IOU Programs

Innovators	Early Adopters	Early Majority	Late Majority	"Laggards"
Emerging Technologies	Incentives	Incentives	Incentives	Codes and Standards
ZNE Pilots	Training	Mass marketing	Financing	
	Financing	Financing		

POLICY MECHANISMS

"Sticks" / Legislative requirements

- Energy savings goals
- Budgets / cost-effectiveness
- Strategic Plan compliance / prescriptive portfolio guidance
- Minimum competitive bidding requirement (20%)

"Carrots"

- Shareholder incentives
- Other "passive" benefits (e.g., GHG, corporate "greenwashing," customer satisfaction, etc.)

SECTOR

	Budget ($ M)	Savings (GWh)
Residential	795	1,548
Commercial	743	2,429
Industrial	424	1,132
Agricultural	138	299
Cross-Cutting*	913	854

PROGRAM TYPE

	Budget ($ M)	Savings (GWh)
Comprehensive Retrofits**	879	2,100
Rebates	824	2,195
Direct Install	184	166
Local Govt. Bundled Services	181	278
New Construction	161	260
Marketing, Education and Outreach	121	36
Integrated Programs**	116	34
Education and Training	111	1
Audits	96	125
Technology Demonstration	84	6
Energy Management Services	61	72
Pilot Programs	55	0
Financing Programs	45	0
Codes and Standards	33	132

PROGRAM DELIVERY

	Budget ($ M)	Savings (GWh)
IOU Statewide	1,900	3,612
Third Party	724	1,405
Local Gov't	237	287
State Gov't/ Institution	90	99
RENs / CCA (2013-14)		

NOTE: Data are from 2010-12 portfolio (not 2013-14)

*These are measures that cut across multiple sectors, so they are not additive to the other sectors.

**Comprehensive Retrofit programs provide a full range of services including outreach, audits, incentives and installation. Integrated programs include DR and DG.

CPUC Process for Approval / Oversight of IOU EE Programs

- Multi-Year Budget Cycle

Policy Guidance → **IOU Portfolio Applications** → **Portfolio Implementation**

Policy Guidance	IOU Portfolio Applications	Portfolio Implementation
•Savings Potential / Goals •Portfolio cost effectiveness •Shareholder Incentives •20% Third-party •Strategic Plan / programmatic guidance	•Must meet savings goals •Budgets / Cost-effectiveness •Alignment with Strategic Plan	•IOU Administration •Energy Division EM&V / program implementation oversight

- Current cycle: 2010-2012
- Transition cycle: 2013-2014
- Next cycle: Post-2014

How EE planning studies inform the next portfolio cycle

EM&V Studies for the current portfolio

Databases & Calculators to build the next portfolio

- Consultant Task
- IOU Task
- ED Task
- CEC Task

Saturation Studies
(How much EE was already installed)

Ex-Ante Parameters
EE measure costs
Expected Useful Life (EUL)

Impact Studies
How much EE was installed in this cycle

Database of Energy Efficient Resources (DEER)
Integrates past evaluation results with model simulations to determine savings, cost, expected life for each measure

Cost Effectiveness Calculator (E3)
Calculates the avoided cost for each measure & C-E for each program and whole portfolio

Potential, Goals & Targets
Calculates projected savings for each measure, sector and IOU and sums for total EE potential

IOU Portfolio Filing

IEPR Demand Forecast

LTPP

2013-14 EE Portfolio Organization

IOU Portfolio
[92% of budget]

IOU Statewide Programs [62% of budget]

- •Residential
- •Commercial
- •Industrial
- •Agricultural
- •Lighting
- •Financing
- •Emerging Technologies
- •Codes & Standards
- •ME&O*
- •WE&T
- •IDSM

Utility "Local" Programs [3%]
- PG&E (7)
- SCE (4)
- SDG&E (6)
- SCG (5)

Third-Party Programs [20%]
- PG&E (50)
- SCE (31)
- SDG&E (14)
- SCG (18)

State & Local Gov't Programs [10%]
- PG&E (25)
- SCE (30)
- SDG&E (14)
- SCG (17)

Non-Utility Portfolio
[4% of budget]

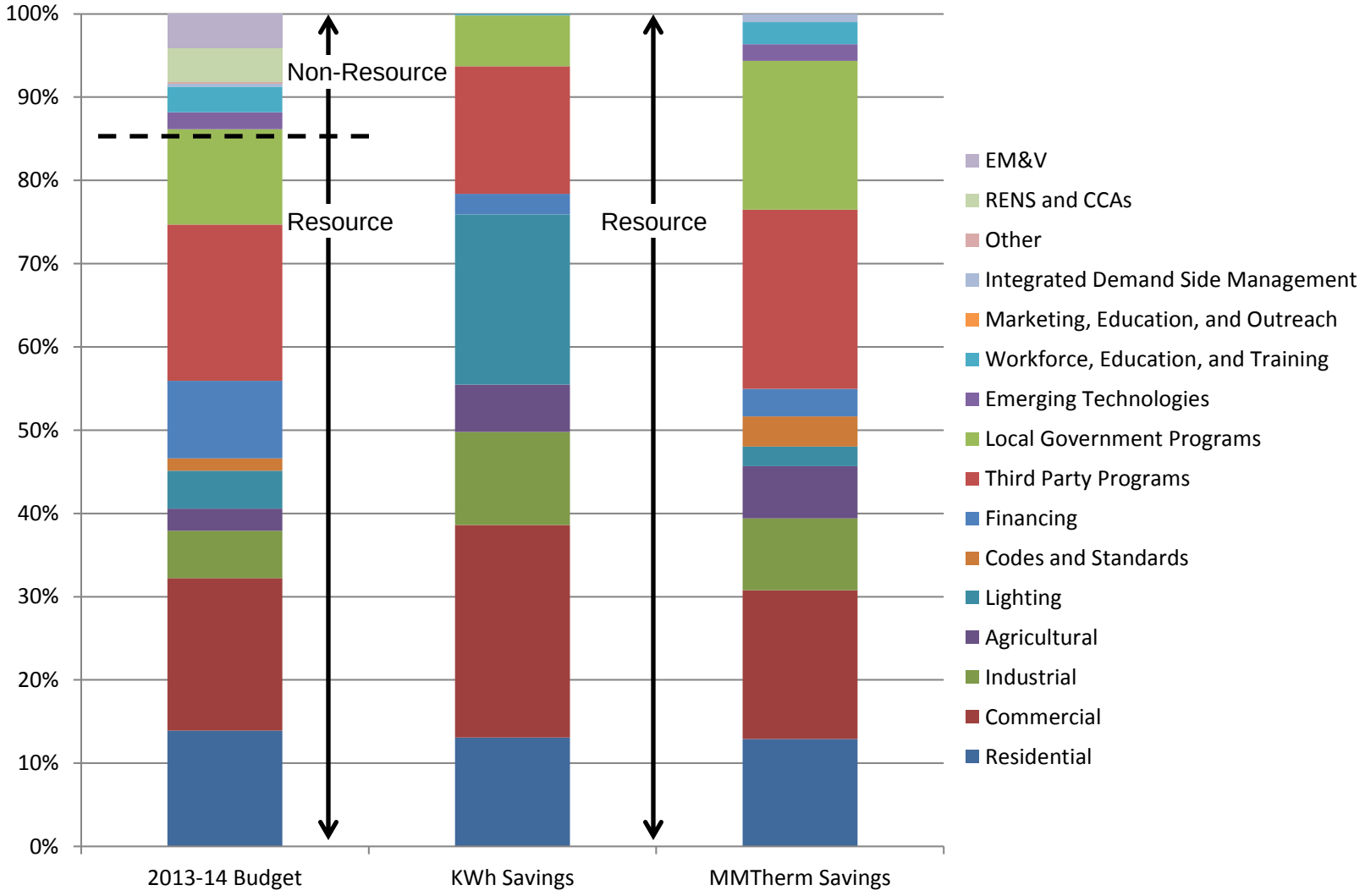
Regional Energy Networks
- **SoCalREN ($44.8M)**
- **BayREN ($26.5M)**

Community Choice Aggregator
- **MEA ($4M)**

Evaluation
[4% of budget]

[%] = Percent of total budget ($1.9B Total)
(#) = Number of individual programs
* ME&O budgets are currently pending in an application before Commission

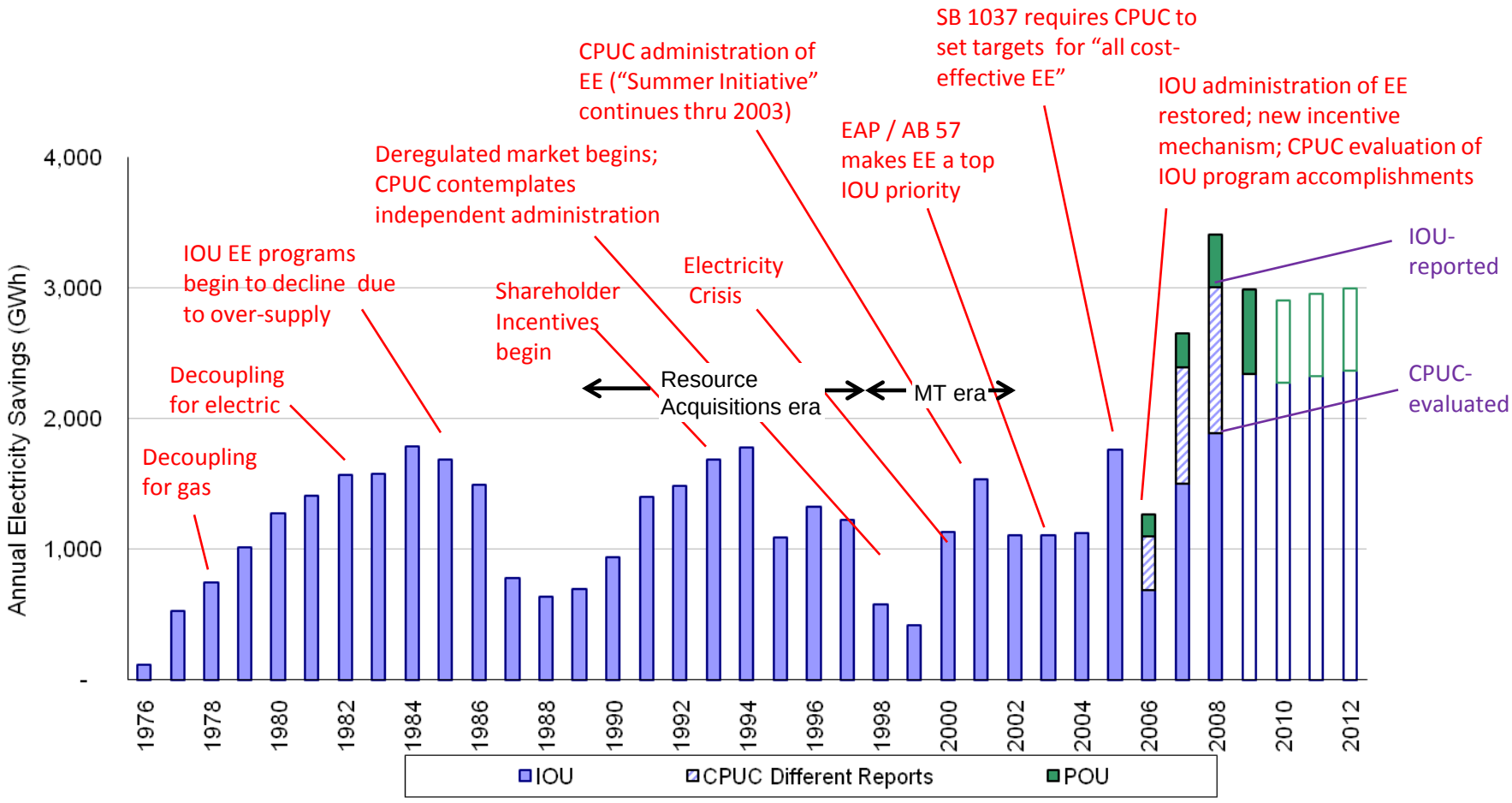
2013-14 IOU Programs: Budget and Savings



*Other expenses include EM&V and IDSM

CPUC Regulatory History of EE

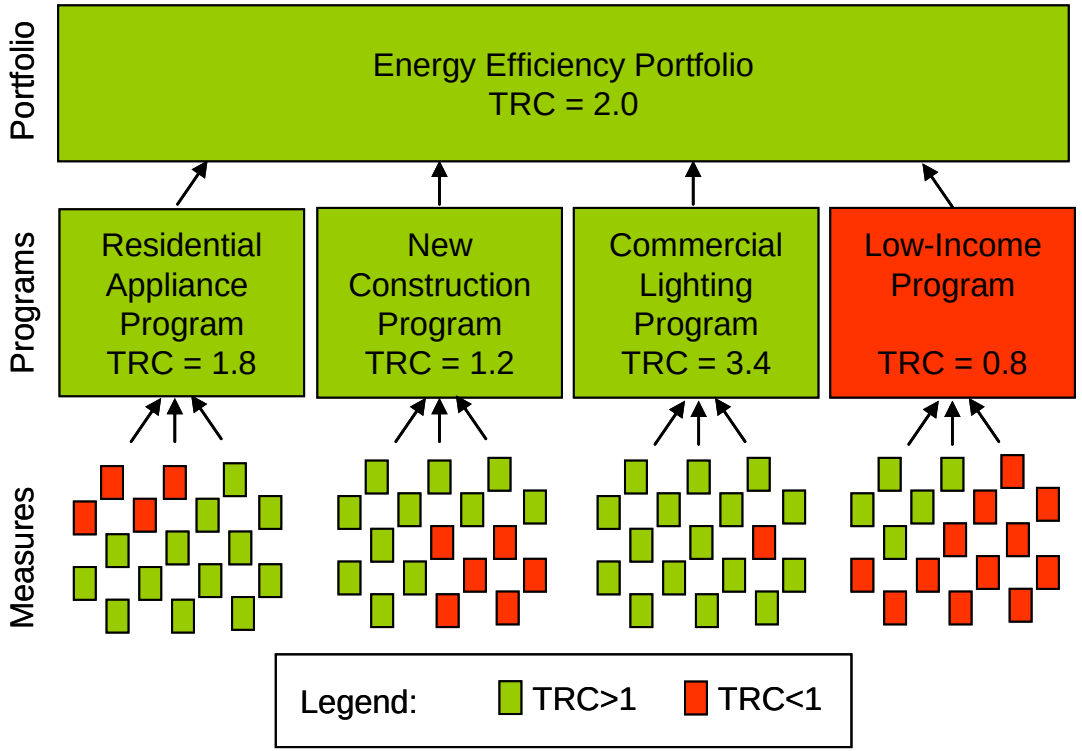
Policy Influences EE Savings Among California Utilities



Source: Natural Resources Defense Council (NRDC), as modified by Energy Division 12/2012

Cost-Effectiveness

CPUC determines EE cost-effectiveness at the portfolio-level and on a "net" basis



- Portfolio approach allows for inclusion of individual programs or measures that do not past cost test (EUC, ETP, new construction, etc.)
- Prospective "dual test" showing examines both TRC and PAC
- Commission determines actual TRC threshold deemed sufficient

Net To Gross (NTG) Ratio

- Net to gross ratio may derate the program impacts significantly
- Key factors addressed through the net-to-gross ratio are:
  - Free Riders
  - Spillover / “Market effects”
  - Underlying participant motivations (including non-energy benefits)
  - Installation Rate
  - Persistence/Failure
  - Rebound / Take Back Effect
- Impact evaluations assess NTG ratios and inform planning parameter updates (DEER, etc.)

Standard Practice Manual (SPM) Cost Tests

Cost Test		Key Question Answered	Summary Approach
Total Resource Cost	TRC	**Will the total costs of energy in the utility service territory decrease?**	**Comparison of program administrator and customer costs to utility resource savings**
Participant Cost Test	PCT	**Will the participants benefit over the measure life?**	**Comparison of costs and benefits of the customer installing the measure**
Utility/Program Administrator Cost Test	UCT/ PAC	**Will utility bills increase?**	**Comparison of program administrator costs to supply side resource costs**
Ratepayer Impact Measure	RIM	**Will utility rates increase?**	**Comparison of administrator costs and utility bill reductions to supply side resource costs**
Societal Cost Test	SCT	**Is the utility, state, or nation better off as a whole?**	**Comparison of society's costs of energy efficiency to resource savings and non-cash costs and benefits**

Summary of Costs and Benefits

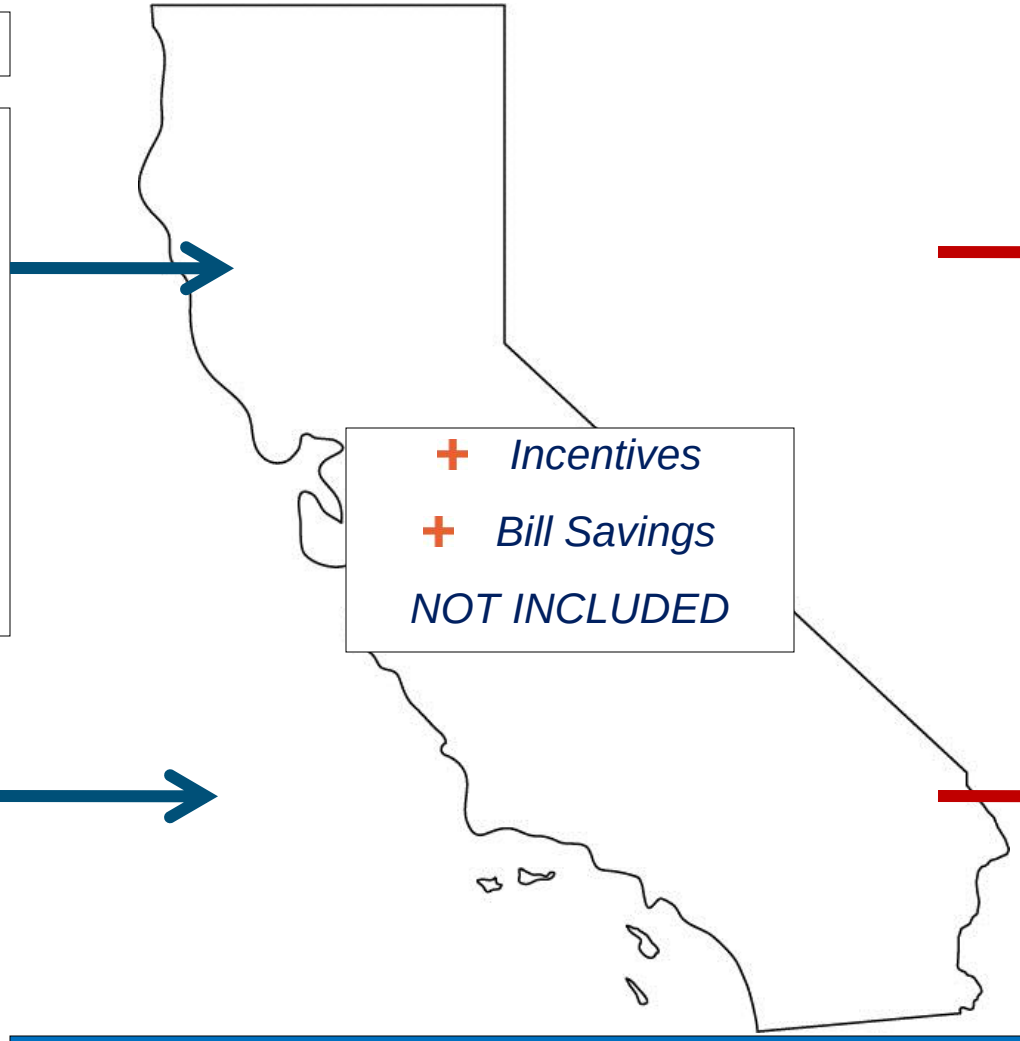
Component	TRC	PCT	PAC	RIM
Energy and capacity	Benefit	-	Benefit	Benefit
Additional resource savings	Benefit	-	-	-
Non-monetized benefits		-	-	-
Equipment and install costs	Cost	Cost	-	-
Program overhead costs	Cost	-	Cost	Cost
Incentive payments	-	Benefit	Cost	Cost
Bill Savings	-	Benefit		Cost

Total Resource Cost Test

Benefits

- Energy
- Capacity
- T&D
- GHG
- Losses
- RPS Purchases

- O&M Savings
- Other Resource Benefits



+ *Incentives*
+ *Bill Savings*

NOT INCLUDED

Costs

- Admin & Overhead Costs
- EM&V

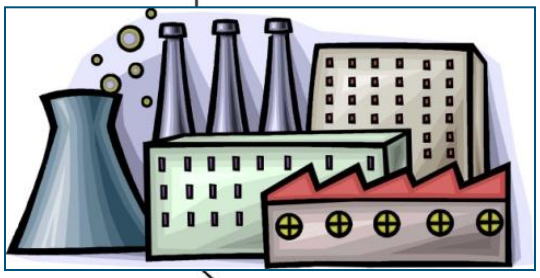
- Equipment Costs
- O&M Costs

Net Benefits to Region as a Whole?

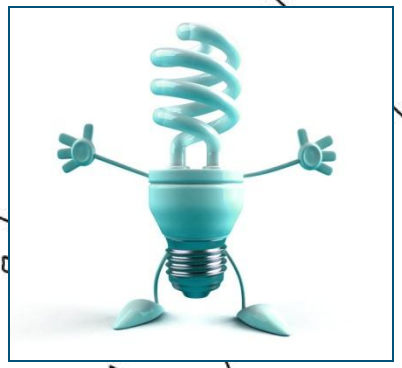
Program Administrator Cost Test

Benefits

- Energy
- Capacity
- T&D
- GHG
- Losses
- RPS Purchases



+ Incentives



Costs

- Admin & Overhead Costs
- EM&V

Is Program Cheaper Than Other Sources of Energy?

Cost-effectiveness "frontiers"

1. **Current methods to quantify energy savings** (from which avoided costs are derived) do not include:
   - "Spill-over" – Savings that results when program participants and/or nonparticipants adopt measures without obtaining any customer incentive as a result of some exposure to the incentive programs
   - Difficult to quantify / demonstrate with certainty
   - Well within statutory mandates
2. **Current EE cost-effectiveness tests** do not include the value of **societal non-energy benefits** (e.g., job creation, labor productivity, tax receipts growth, housing value, other env benefits), other than GHG benefits
      - Participant non-energy benefits (e.g., comfort, health, and safety) are accounted for in the NTG methodology, which allocated participant costs and benefits according to influence factors.
   - Difficult to quantify / demonstrate with certainty
   - Statutory mandates for authorizing ratepayer EE programs address energy savings, system reliability, and environmental benefits.

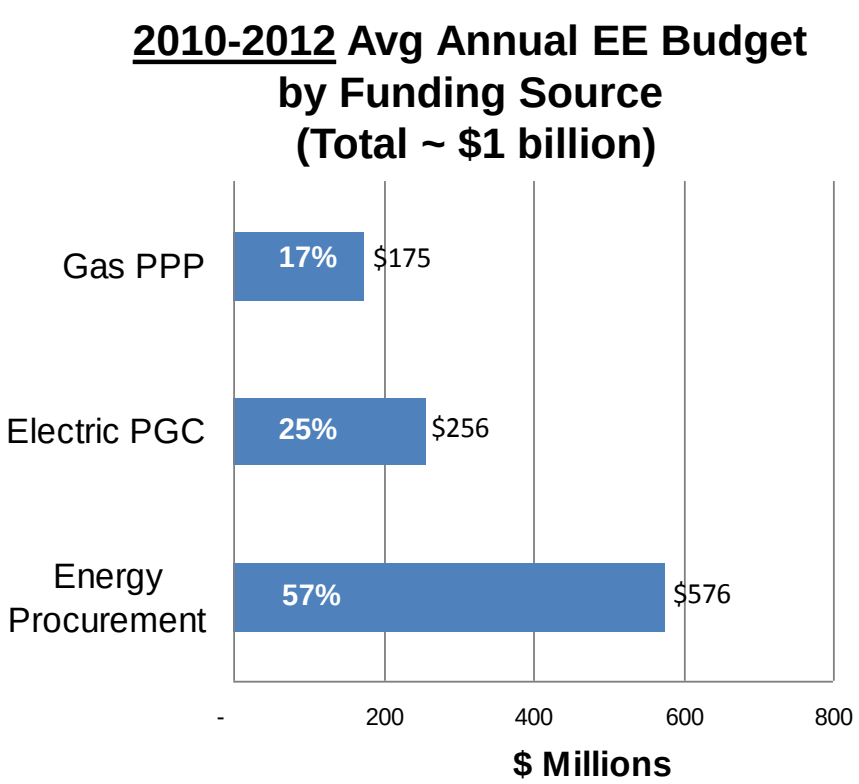
EE Goals

EE is at the top of the "Loading Order"

IOUs must achieve All Cost-Effective EE:

- PUC Sec 454.5 requires that IOUs "meet unmet resource needs with all available EE and demand reduction that is cost-effective, reliable, and feasible."
- PUC Sec 454.55 / 454.56 requires CPUC to establish targets for the IOUs to achieve all cost-effective electric / gas EE

Funding Sources for Mainstream IOU Energy Efficiency Programs



Today (2013-14)

- $1.9B authorization
- 17% from gas PPP
- 83% from electric procurement

How EE goals are set

Potential Study

Technical Potential

Assessment of total energy savings available by end use and sector, relative to the baseline of existing energy uses

Economic Potential

Assessment of cost-effective EE potential available

Market Potential

DEER and non-DEER work papers

Avoided Cost Calculator Outputs

Willingness/ Awareness data

C&S Savings model

2013-14 Goals & Targets

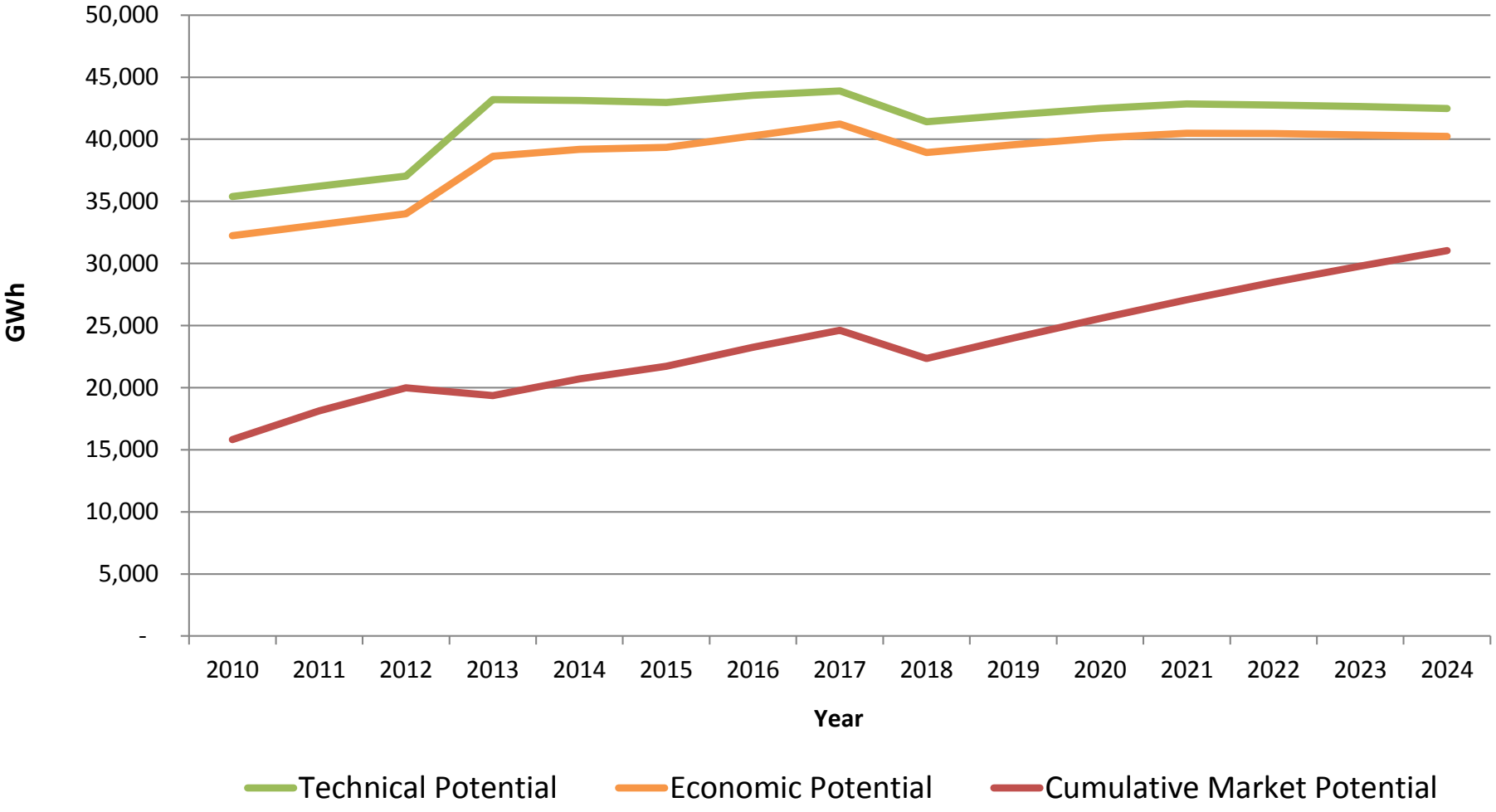
for post-2014 planning…

Goals Study

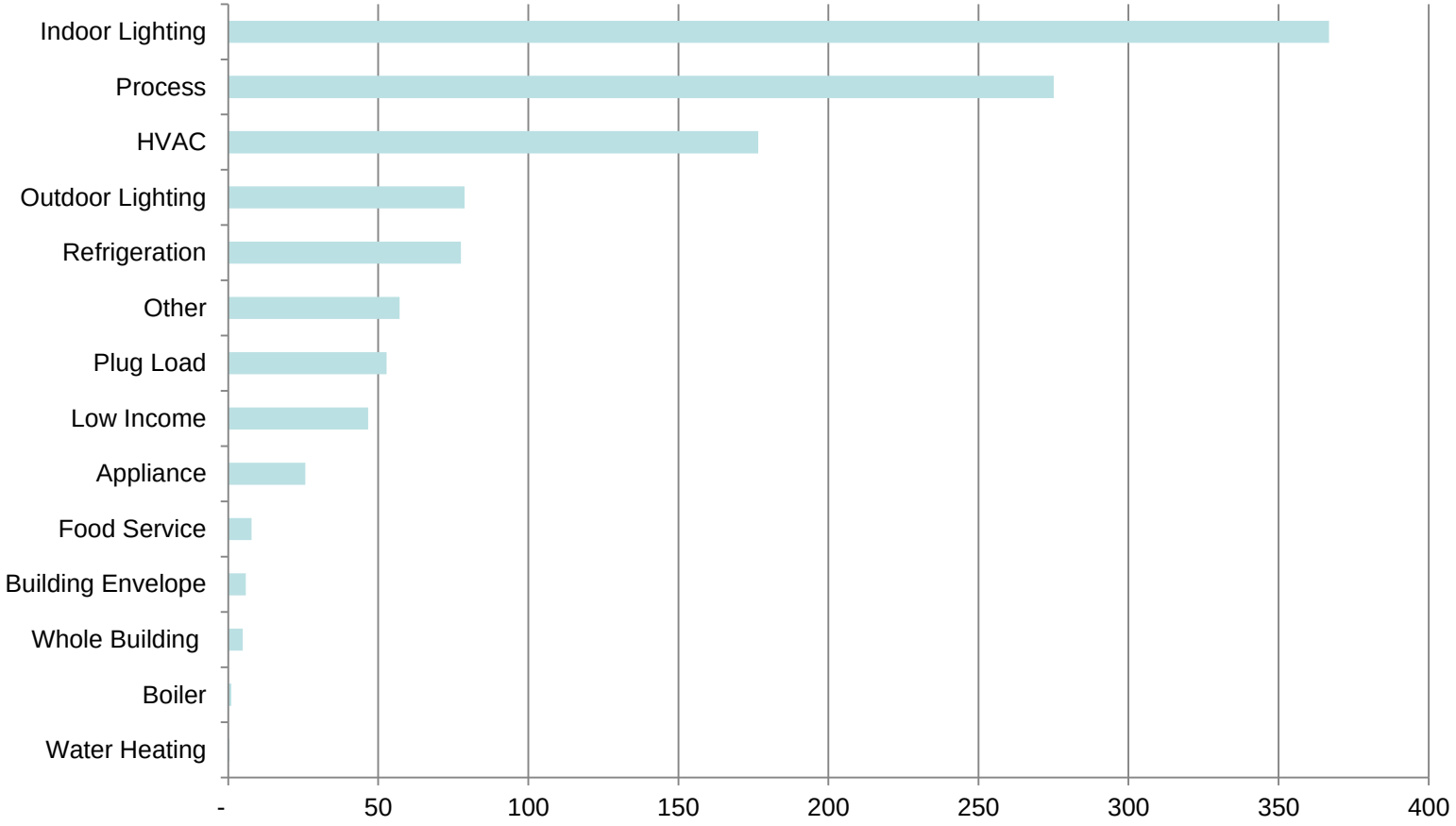
Potential study update (ET) +
C&S savings update +
Financing model +
Strategic Plan initiatives

Attribution Analysis
Scenario Analysis

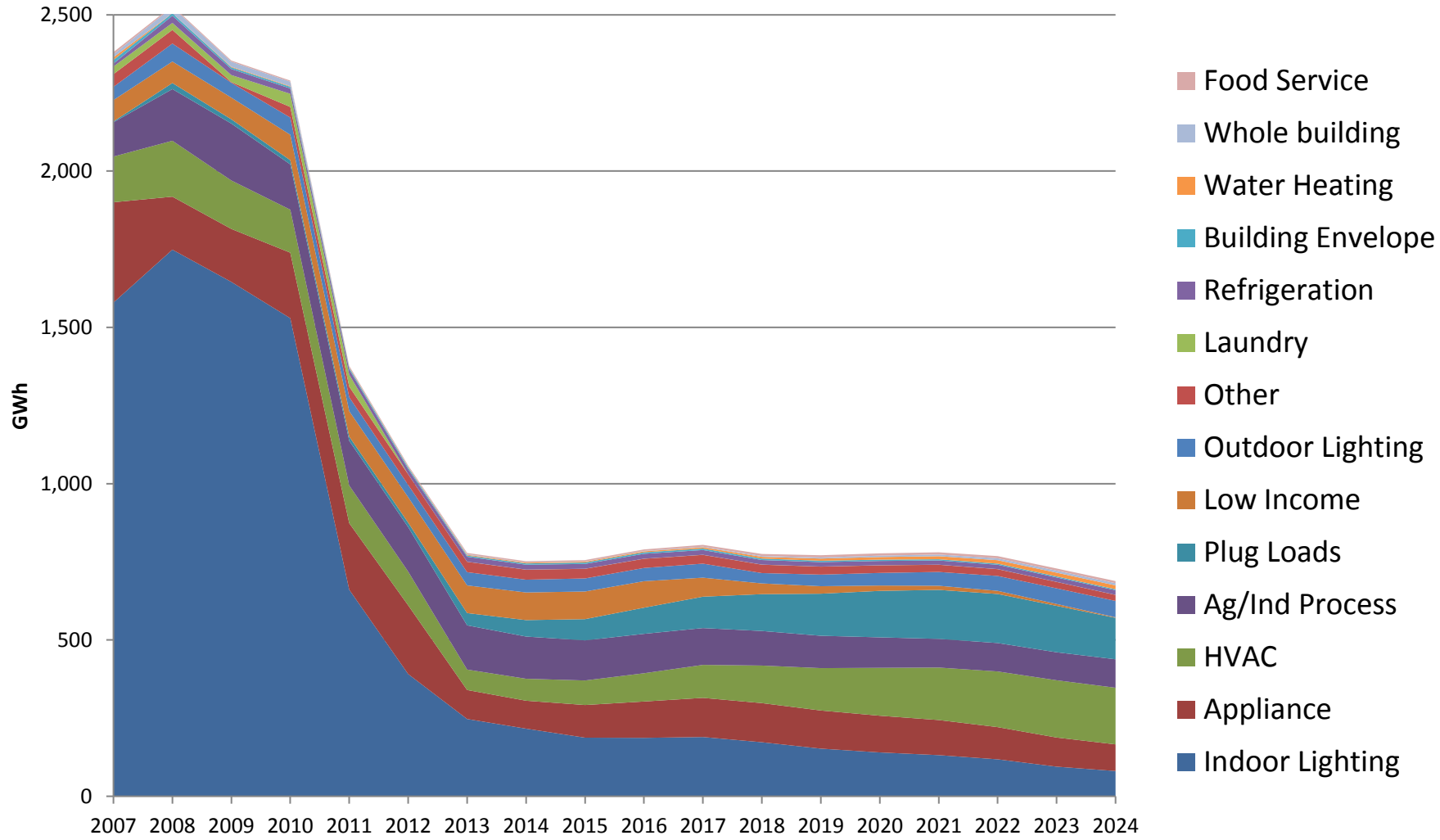
Technical, Economic and Cumulative Market Potential in the 2013-14 Potential Study



2013 Potential by Measure Type

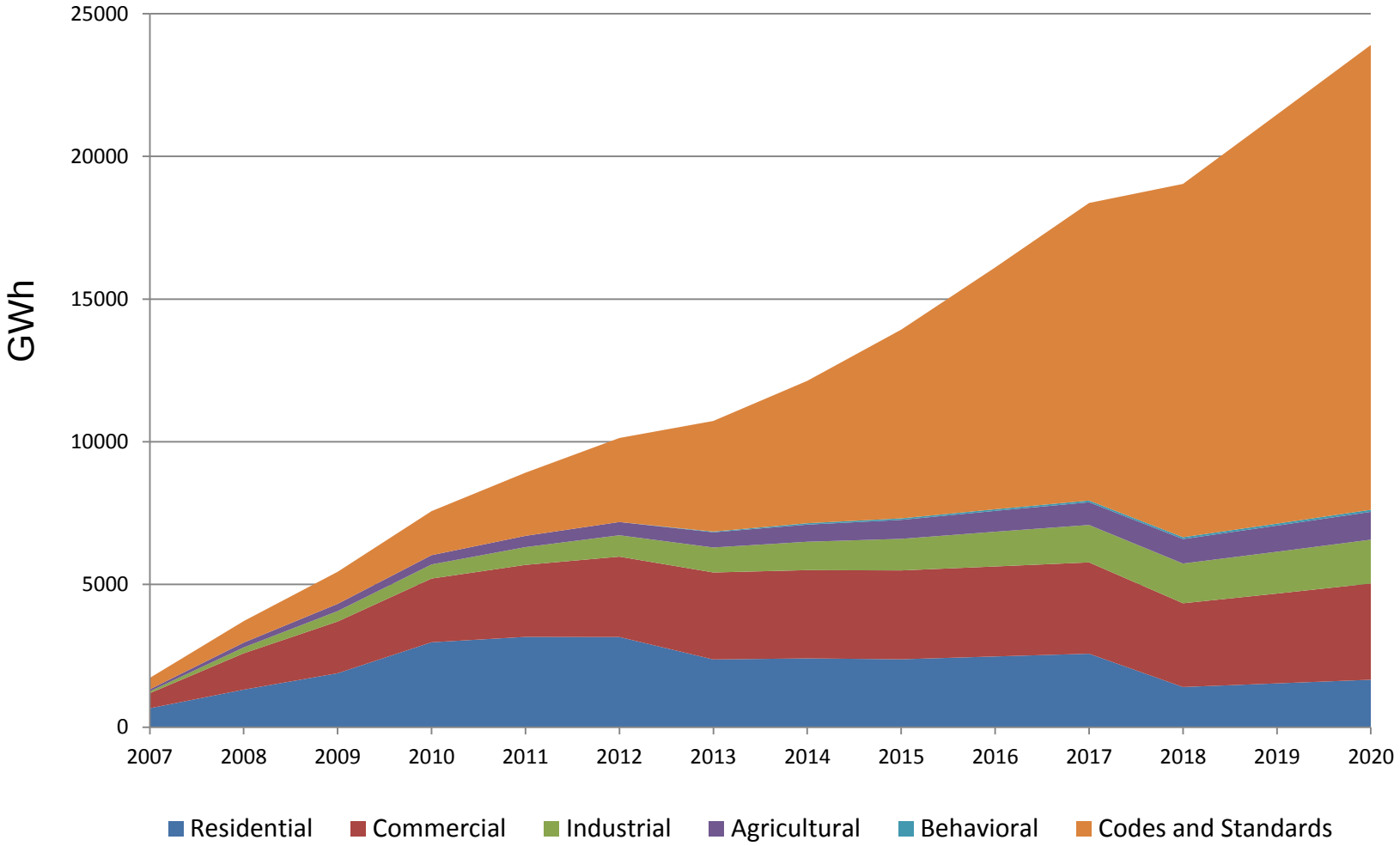


Potential Study: CFL Market Potential, once available to IOU Programs, now transitioning into code



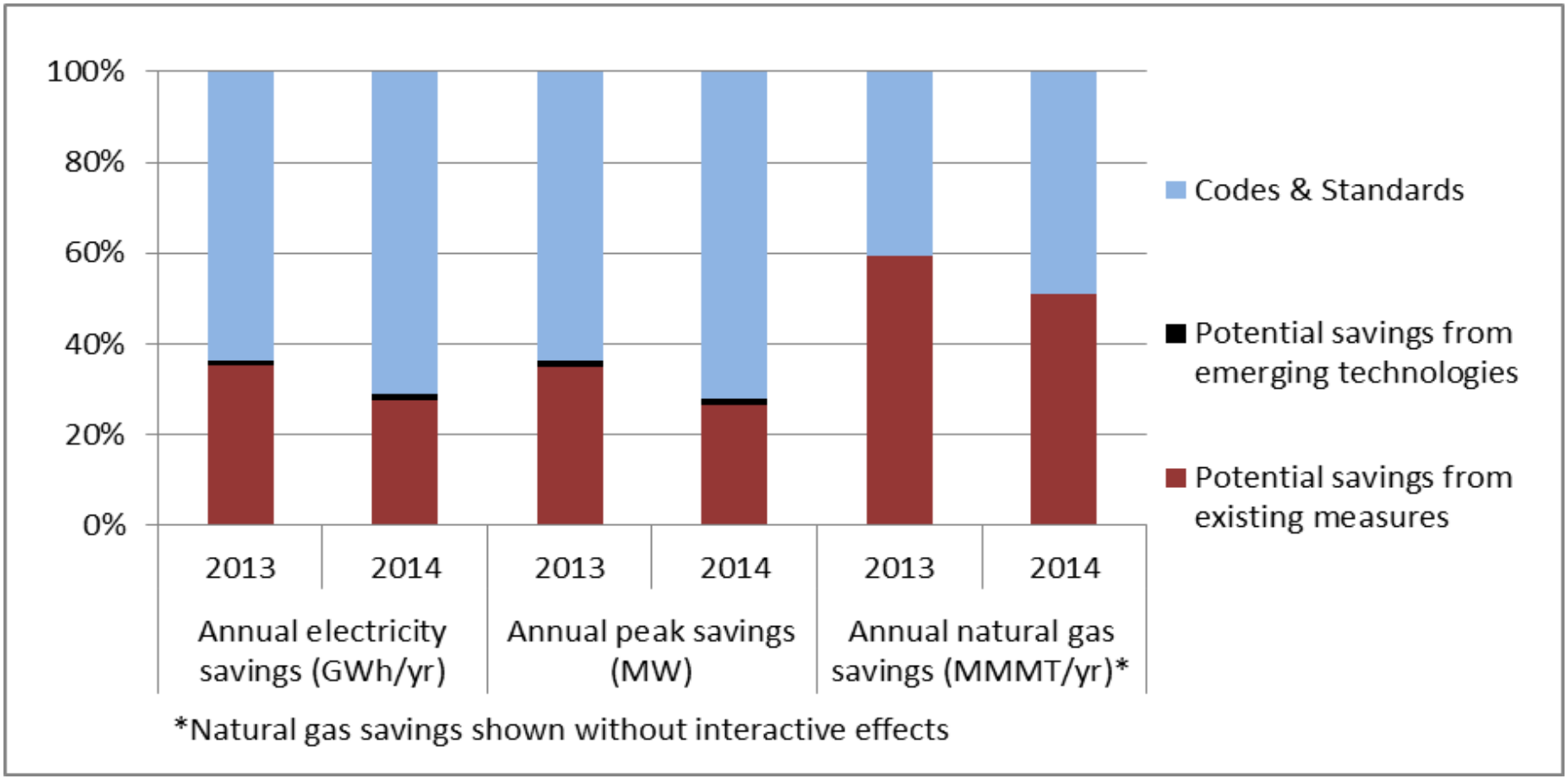
Source: Navigant, 2011 Potential Study

Potential Study: Major Shift of Market Potential into Codes & Standards

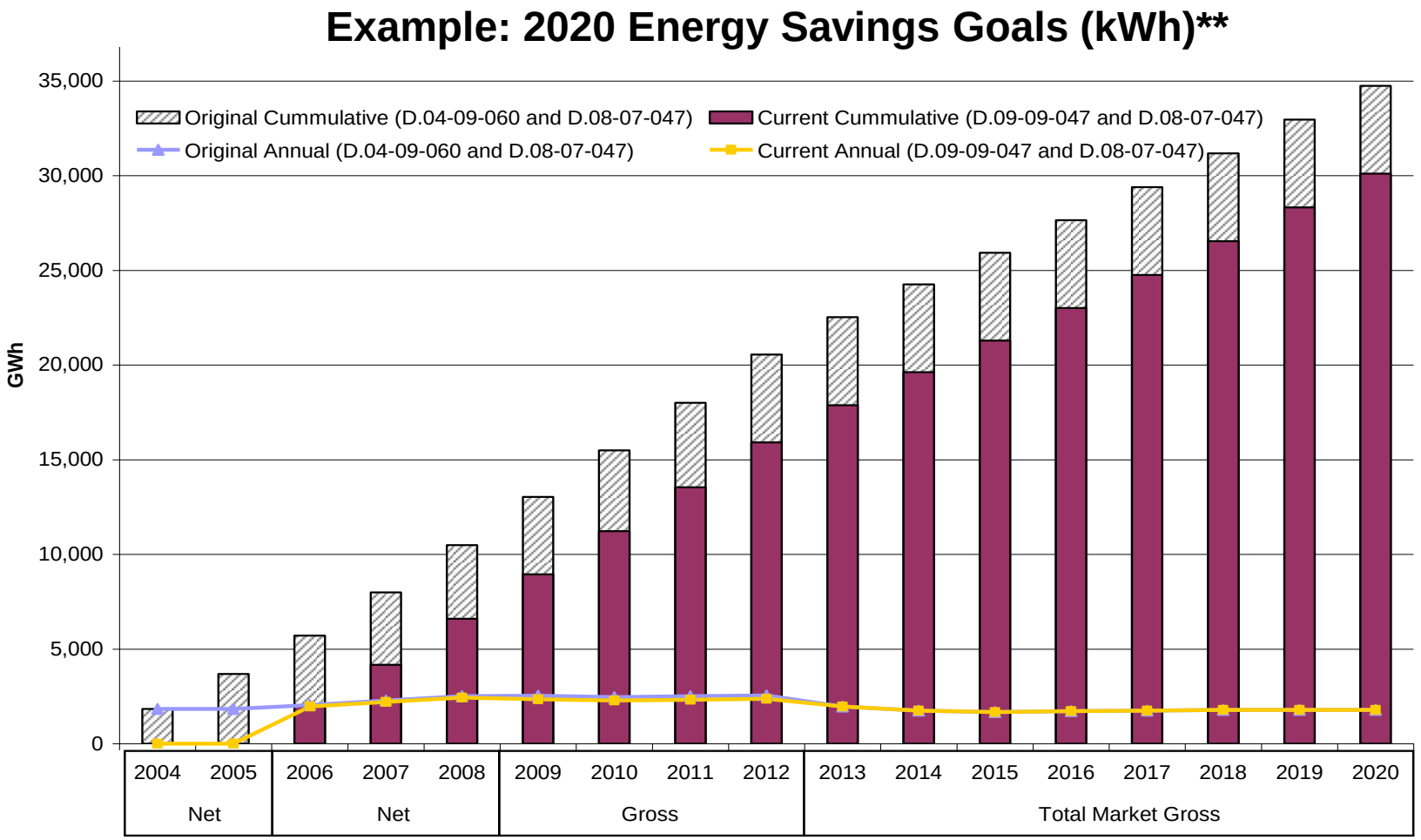


Source: Navigant, 2011 Potential Study

IOU 2013-14 EE Goals



Commission-Adopted IOU Savings Goals*



* Adopted pursuant to P.U. Code Sections 454.55 and 454.56 (SB 1037, Kehoe, Statutes of 2005)
**Pursuant to CPUC Decision (D.)08-07-047, as modified by D.09-09-047

Shareholder Incentives

Recent Shareholder Incentives

- 2006-08 mechanism
  - Shared savings rate based on goals accomplishment
  - Performance basis based on ex post net benefits
- 2006-08 / 09 payments based on ex ante
- 2010-12 options
  - ALJ PD – No incentives
  - Alternate PD – Management fee with performance bonus tied to ex ante review
- 2013-14 - Pending

Ex Ante / Ex Post

Ex Ante vs. Ex post Savings Estimates

Ex Ante

- Estimate of likely energy savings before a measure is installed based on predictions of average operating conditions and baseline usage
- Utility reported values
- Revised Commission policy used as basis for 2006-08 (-09) shareholder incentive payments
- Ex ante review (EAR) processes for (a) custom and (b) deemed (DEER and non-DEER)

Ex Post

- Estimates of "actual" energy savings based on onsite measurements, energy billing analysis, and other types of data collection.
- Energy Division evaluated values
- Original Commission policy contemplated as basis for 2006-08 shareholder incentives

Both require counterfactual assumption of what would have happened in the absence of the program

Ex Ante Review Process

- **Custom**
  - IOU post a list of projects for Energy Division to sample
  - Energy Division selects projects for review, modifies parameter assumptions as deemed reasonable
- **Deemed**
  - DEER – Database "common measures"
    - Periodic updates by Commission decision to incorporate "best available information" from evaluation research
  - Non-DEER – Measures or tools not captured in DEER
    - Based on "best available information"
    - May include measures or tools (e.g., EnergyPro)
    - IOUs submit work papers for Energy Division review
    - Energy Division selects for review, releases dispositions with adjusted values as appropriate.

Evaluation Measurement and Verification (EM&V)

EE Evaluation, Measurement and Verification (EM&V) "101"

- **Impact Evaluation** is used to verify energy savings through field research. Key aspects investigated are:
  - Installation Rates (*How many units got installed?*)
  - Unit Energy Savings (*What savings were achieved?)* –Factors include baseline, expected life, operating hours, peak time effects)
  - Program influence or Attribution (*To what extent did the program cause the action?)* -- Compared to other motivating factors, such as natural market changes, vendor advertising, price effects, environmental effects, etc.?)

- **Lessons Learned** are applied to future program designs & implementation strategies, including:
  - Updated energy savings expectations
  - Insight into customer segments with highest savings potential
  - Profiles of customers unlikely to take action without utility program facilitation

Application of EM&V results to future portfolio design

Increasing reliability of future savings estimates

- Updating program planning values in order to create more accurate ex-ante projections of likely savings in the next program cycle
- Making procurement demand forecast estimates more accurate

Improving program efficacy

- Providing performance information to program administrators
- Identifying measures that are not cost-effective for removal or reduction in the portfolios
- Improving program processes and implementation so delivery inefficiencies are reduced or eliminated
- Developing feedback on new programs or measures for which good data does not yet exist

Providing market feedback

- Assessing the potential for remaining energy savings
- Monitoring changing market conditions to inform program design
- Constructing trend data on target markets for use in strategic planning and guidance for the next cycle

EM&V Objectives

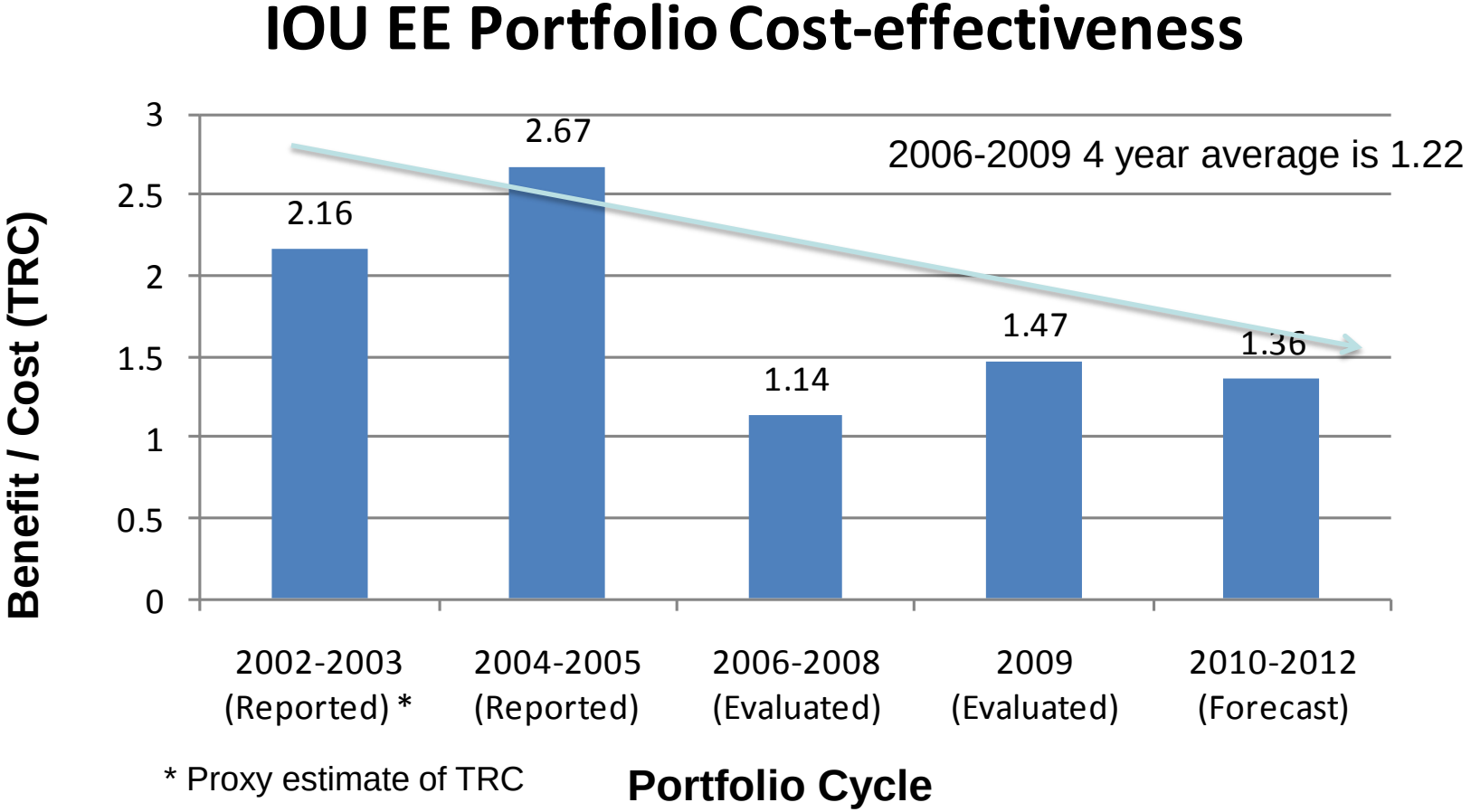
- **Measure & Verify Savings** - for load impact and procurement planning
- **Program Evaluation** - for timely performance feedback, improvement
- **Market Assessment –** For determining baseline, remaining potential, goal-setting
- **Policy and Planning Support –** Such as goals studies, DEER database, market transformation insight, and other overarching studies outside of core EM&V
- **Financial and Management Audit –** Ensures adherence to CPUC requirement for efficient and effective use of funds (e.g. administrative and marketing cost caps, prudency, etc.)

New Approaches to EM&V Administration

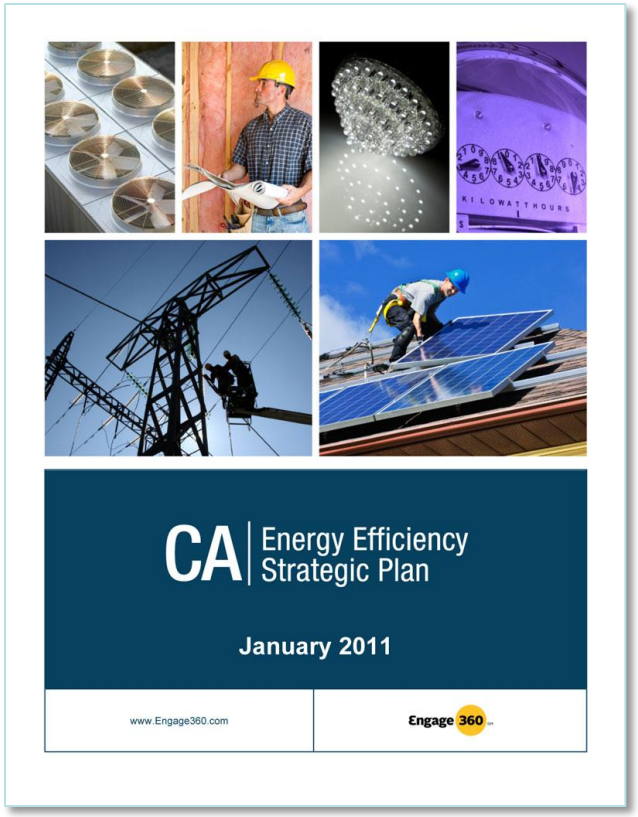
- First ever EM&V Work Plan – a living document developed in close collaboration with IOUs
- Evaluation needs integrated efficiently into multi-faceted studies
- Studies implemented on staged, rolling basis
- Stakeholder input scheduled; dispute resolution structure set up
- Prime contractor administrative structure to ensure consistency across sampling methodologies , identify study synergies, eliminate redundancy

Strategic Plan

The Cost-Effectiveness Challenge



California Long-Term Energy Efficiency Strategic Plan



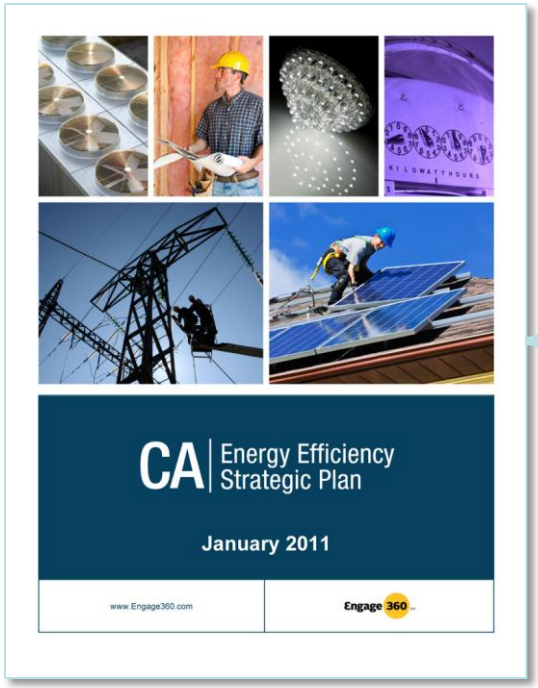
- 2007: CPUC adopts **Big Bold Energy Efficiency Strategies**:
  1. All new residential construction will be zero net energy (ZNE) by 2020
  2. All new commercial construction in California will be zero net energy by 2030
  3. HVAC market will be transformed to ensure that its energy performance is optimal
  4. All eligible low-income customers will be given the opportunity to participate in ESAP by 2020.
- 2007: CPUC orders a Strategic Plan to achieve “all cost-effective energy efficiency.”
- 2008: CPUC adopts the Strategic Plan
  - A roadmap for EE through 2020 and beyond
- 2009: CPUC approves IOU programs shaped by the Strategic Plan
- Action Plans to engage non-utility entities

2010-2012 Budgets attributed to "Strategic Plan-inspired" programs

IOU	Plan Prgm Budget (ED)($M)	Plan Program Budget (IOU) ($M)	Total IOU Budget ($M)	% of Total Budget (Per ED)	% of Total Budget (Per IOUs)
PG&E	70	110	1, 338	5%	8%
SCE	43	61	1, 228	4%	5%
SDG&E	7.5	6	278	3%	3%
SoCalGas	7.5	15	285	3%	5%

Strategic Plan “Action Plans”

Strategic Plan Implementation Vehicles



- IOU Portfolios
- State Agencies
- Action Plans
- Champions Network
- Foundation Grants

Big Bold Energy Efficiency Strategies

Action Plans: A Project Management Tool for Strategic Plan Implementation

Strategic Plan			
GOAL			
	Near-Term 2010-2012	Mid-Term 2013-2015	Long-Term 2016-2020
Strategy 1	**Milestone**		
Strategy 2			
Strategy 3			

Action Plan			
STRATEGY			
	Champion	Actions	Timeline
Milestone 1	Champ 1 Champ 2	Action 1 Action 2 Action 3 Action 4	Q1 2011 Q2 2011 Q3 2011 Q4 2011
Milestone 2	Champ 1	Action	Q1 2012

Action Plan Example

- Strategy 1-3: Establish "Path to Zero" Campaign to Create Demand for High-Efficiency Buildings

Milestone	Champions	Key Actions	Timeline
1-3-2 Organize forums to develop and exchange experience and data on emerging technologies, practices, and designs that deliver ultra-low and ZNE buildings	Peter Turnbull, PG&E Gregg Ander, SCE RK Stewart, Perkins & Will	Convene regular forums involving key market actors, technical experts	Complete
		Record and inventory data and related emerging tech at forums, and publish on-line	Q3 2010
		Survey forum participants re: best information for owners, architects	Q3 2010
		Coordinate forums with "Lead By Example" efforts (Strategy 2-1)	Q4 2010
		Identify and craft ZNE best practices and technical guides; create a ZNE Mentorship program	Q4 2010

ZNE Action Plan "Champions"

NRDC
The Earth's Best Defense

SMUD
Sacramento Municipal Utility District
The Power To Do More.

Department of Energy
United States of America

SDGE
A Sempra Energy utility

CTG

Southern California Edison
An Edison International Company

California Public Utilities Commission

State of California
Public Utilities Commission

KEMA

PG&E

State of California
Energy Commission

sfenvironment.org
our home. our city. our planet

ZETA
zero energy communities

ConSol

IDeAs
... design facilities

Google

p2s

resource | media

DGS California Department of General Services

Waypoint
Building Group

Local Government Commission

P|E|C|I

WattStopper

Berkeley Lab
Lawrence Berkeley National Laboratory

University of California
ciee

Architectural Energy Corporation

BOMA International

ecos

BuildingWise

Perkins + Will

Actions Plans Developed / Underway

Completed / Underway

- Commercial ZNE
- HVAC
- Lighting

Co-led or Led by Energy Commission

- Research & Technologies (under development)
- Codes & Standards (under development)

Contemplated

- Residential ZNE
- Industrial

Post-2014 Planning Activities

Post-2014 Planning Activities

Note: These are staff draft estimates, which have yet to be approved by the ALJ or Assigned Commissioner

- Cost-Effectiveness parameter / methodology update (est. June 2013)
- Goals study (est. March 2013)
- AB 758 action plan (est. June 2013)
- DEER update based on 2010-12 impact evaluations (est. Q3 2013)
- Guidance decision (est. Q4 2013)
- IOU applications (est. Q1 2014)

Energy Division Organizational Chart and Staffing

Energy Division Staffing of Demand-Side Management Group

Demand-Side Programs Branch
Manager: *Simon Baker*

Demand-Side Analysis Branch
Manager: *Pete Skala*

17 EE Positions

Residential Programs
(EE, ESAP, DR)
Supervisor: *Hazlyn Fortune*

Non-Residential Programs
(EE, DR)
Supervisor: *Bruce Kaneshiro*

Customer Generation Programs
(DG)
Supervisor: *Melicia Charles*

Integrated Demand-Side Analysis
(EE, ESAP, DR, DG)
Supervisor: *Jaclyn Marks*

Demand-side Evaluation
(EE, ESAP, DR, DG)
Supervisor: *Carmen Best*

Retail Rate Design
Supervisor: *Paul Phillips*

EE-Related Sections

ESAP = Energy Savings Assistance Program
DR = Demand Response
DG = Distributed Generation (CSI Solar & SGIP)

Thank You

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More information:
http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/

Appendices

- Regulatory History of EE
- 2012-13 EE Program Details

Regulatory History of CPUC EE Programs

1970s and 1980s

- Late 1970s: inverted rate structures to encourage reduced consumption; utilities offer loan programs for residential customers
- 1976: Gas decoupling (a.k.a. “Supply Adjustment Mechanism”)
- 1982: Electric decoupling (a.k.a. “Electric Revenue Adjustment Mechanism”)
- 1980s: utility DSM spending declines due to surplus energy supplies and lower avoided costs

Regulatory History of CPUC EE Programs

Pre-Deregulation – *Energy Efficiency as Resource Procurement*

- I989: Hearing to address how DSM programs should fit into utility resource procurement, and how regulation could encourage desirable investments in DSM.
- 1990: “California Collaborative” report, a blueprint to revitalize DSM activity in California.
  - Proposed **new regulatory mechanisms** to allow utility shareholders to participate in the benefits of DSM
  - Created **new and expanded DSM programs** as part of a procurement portfolio
  - Recommended **policies to govern the regulatory treatment** of utility DSM program

Regulatory History of CPUC EE Programs

Pre-Deregulation – *1990s Shareholder Incentives*

- "Experimental" shareholder incentive mechanisms and OIR / OII to develop statewide standards and benchmarks to measure EE and to determine the appropriate levels of incentives
- Mix of "shared savings" and fixed "management fee" structures
- 1993: Commission approved shareholder incentives to continue

Regulatory History of CPUC EE Programs

Pre-Deregulation – *Measurement and Evaluation*

- In **1993** the Commission established **measurement and evaluation (M&E) protocols** for measuring energy savings after program implementation
- Utility shareholder earnings **directly linked to the results of program measurement and evaluation**
- The adopted protocols required utilities to conduct M&E studies along a predetermined schedule over a 10 year period
- Beginning in 1994, earnings would be paid out over a 10 year period, in four installments coinciding with study completion
- Each installment would be dependent on study results designed to true-up the real benefits

Regulatory History of CPUC Energy Efficiency Programs

Deregulation – *Market Transformation, Independent Administration, and CBEE*

- In 1997, with the advent of electric restructuring and a shift towards market-based energy services, the Commission:
  - Began to shift from energy efficiency **resource procurement to market transformation**
  - Announced its intention to **move administration of energy efficiency programs** from the utility companies **to an independent entity** through a completive solicitation
  - Appointed an independent board, the **California Board for Energy Efficiency (CBEE),** to oversee the transition to independent administration

Regulatory History of CPUC Energy Efficiency Programs

Deregulation – *Utility "Interim" Administration*

- During the expected transition to the new administrative structure for energy efficiency, the Commission authorized the utilities to continue to administer energy efficiency programs on an interim basis
- **1998 - 2000** program utility earnings were based on "milestones"
- **From 1998 to 2001:**
  - The Commission had to continually reassess how long utility interim administration would continue
  - The Commission had to order utilities to file program plans on very short notice just before the beginning of the program year
  - Very little time for Commission staff and parties to consider utility proposals

Regulatory History of CPUC EE Programs

Deregulation – *Demise of CBEE*

- In 1998, the State Personnel Board disapproves of agreements between CBEE and its technical and administrative consultants in response to a complaint by CSEA
- CBEE consultants were instructed to cease work and CBEE (a volunteer board) was left with insufficient resources
- The Commission agreed to take steps to create nine civil service positions to perform the work previously performed by the CBEE consultants
- Governor vetoes budget request for civil service positions
- Commission abolishes CBEE in early 2000

Regulatory History of CPUC EE Programs

Post -Deregulation – *Energy Crisis / CPUC administration of EE programs*

- 2000: Commission responds to the energy crisis by adopting the Summer Initiative programs to run in parallel with the utility PGC programs – allocating $72 million in unspent funds from prior years
  - The Commission allowed non-utilities to propose programs
  - Energy Division staff selected programs
- 2001: Legislature recognizes the importance of energy efficiency in addressing the energy crisis by appropriating $97 million from General Fund to the Commission for energy efficiency programs in SBX1-5
  - Energy Division staff managed contracts with large and small utilities, cities and companies
- 2002-2003: Commission made $104 million available to non-utility programs
  - Continued the process of Energy Division proposal review and program management of non-utility programs begun by the Summer Initiative and SBX1-5

2010-12 EE Portfolio

2010-2012 IOU Energy Efficiency Portfolio

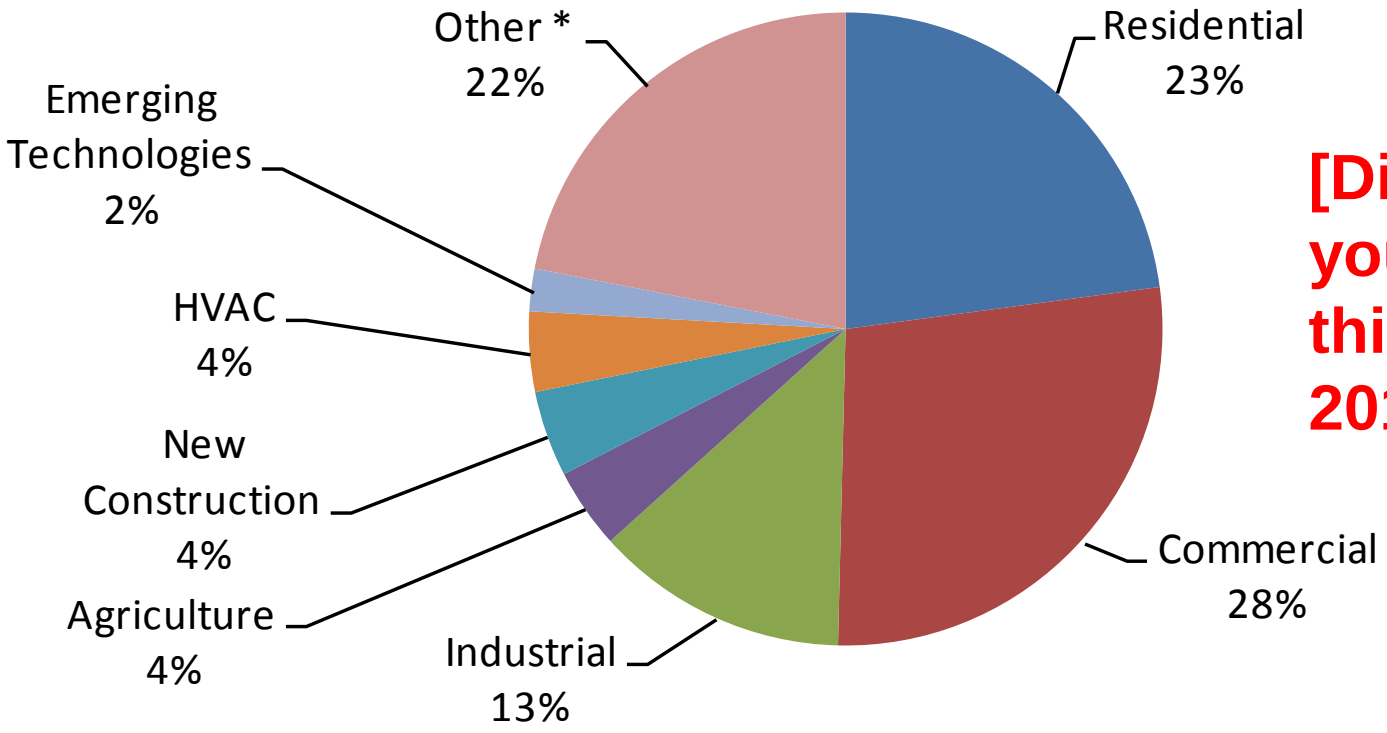
- D.09-09-047 approved **$3.1 billion** in 2010-2012 EE funding:
  - Additional **$750 million** approved for low income EE programs in separate proceeding

- Three-year combined savings targets:

  7,000 GWh / 1,500 MW / 150 MMTherms
  - Equivalent to 3 major power plants
  - Savings incorporated into procurement planning

IOU Energy Efficiency Budgets 2010-2012

(Total = $3.1 Billion)

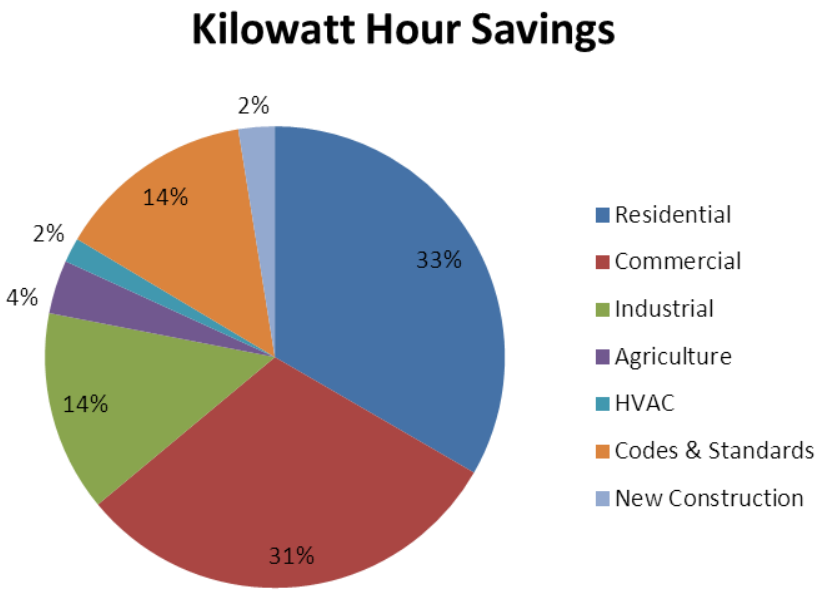


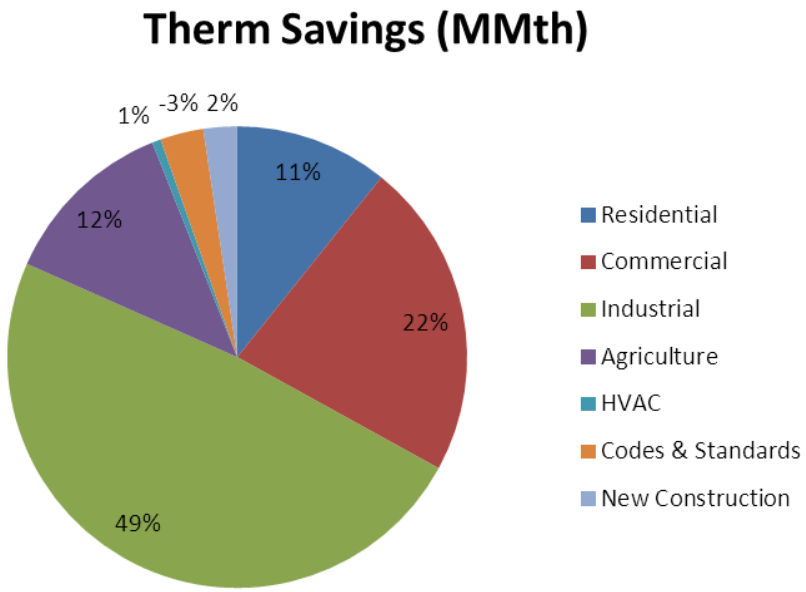
[Dina – Can you update this chart for 2013-14?]

*Other includes Codes & Standards; Institutional; Local Government Partnerships (LGPs); Marketing, Education & Outreach (ME&O); Workforce Education & Training (WE&T); Integrated Demand-side Management (IDSM); Lighting Market Transformation; and Evaluation Measurement & Verification (EM&V)

2010-2012 Projected Savings, by Market Sector

[Dina – Can you update this chart for 2013-14?]





Residential Buildings

- **8 Subprograms:**
  - Appliances (furnaces, windows, etc) rebate program
    - Single-family and Multi-family dwellings
  - Basic CFL and Advanced lighting “upstream” buy-downs
  - Electronics “up/mid- stream” buy-downs
  - Home energy use survey & tools (online, by phone, in person)
  - *Energy Upgrade California*- comprehensive home energy improvement program
- **Additional Third-Party and Local utility programs**
  - e.g. Online Buyers Guide (SCE)
- **32%** of planned electric savings, **11%** of gas savings, and **25%** of portfolio budget

Whole-house Retrofit Subprogram

- *Energy Upgrade California*
  - $113M program
    - Advanced (performance) and basic (prescriptive) paths
    - Incentives; some marketing & outreach
  - Budgeted for 42,000 homes
  - Single-family launched October 2010
    - MF SDG&E pilot late 2011
  - Partnering with Energy Commission's ARRA-funded home retrofit programs
  - Program to be "consistent" with Home Energy Rating System (HERs)

energy upgrade™ CALIFORNIA

Reduce energy use. Save money. Create jobs.

Commercial Buildings

- **5 Statewide programs**
  - Non-Residential Audits
  - Deemed Incentives
  - Calculated Incentives
  - Continuous Energy Improvement
  - Direct Install
- **Local utility programs**
- **Third-party administered programs**
  - Targeting hospitals, lodging, schools, office buildings and various other niche markets
- **29%** of planned electric savings, **22%** of gas savings, and **30%** of portfolio budget

HVAC Programs

- **5 Subprograms:**
  - Commercial Quality Installation
  - Energy Star Residential Quality Installation
  - Res & Com Quality Maintenance
  - HVAC Workforce, Education and Training
  - Technologies and Systems Diagnostics Support
- **Additional Third-Party and Local utility programs**
  - e.g. Cool Cash (PG&E)
- **2%** of planned electric savings, **1%** of gas savings, and **4%** of portfolio budget

Codes & Standards Program

- **Analysis /Support activities**
  - Principal audience has been **CEC's** building and appliance standards.
  - Now expanding to influence **US Dept. of Energy** (national standards)

- **Major program activities:**
  - Codes and Standards Enhancement (CASE) studies
  - Compliance Enhancement
  - "Reach Codes"

- **13%** of planned electric savings, **3%** of gas savings, and **1%** of portfolio budget